Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

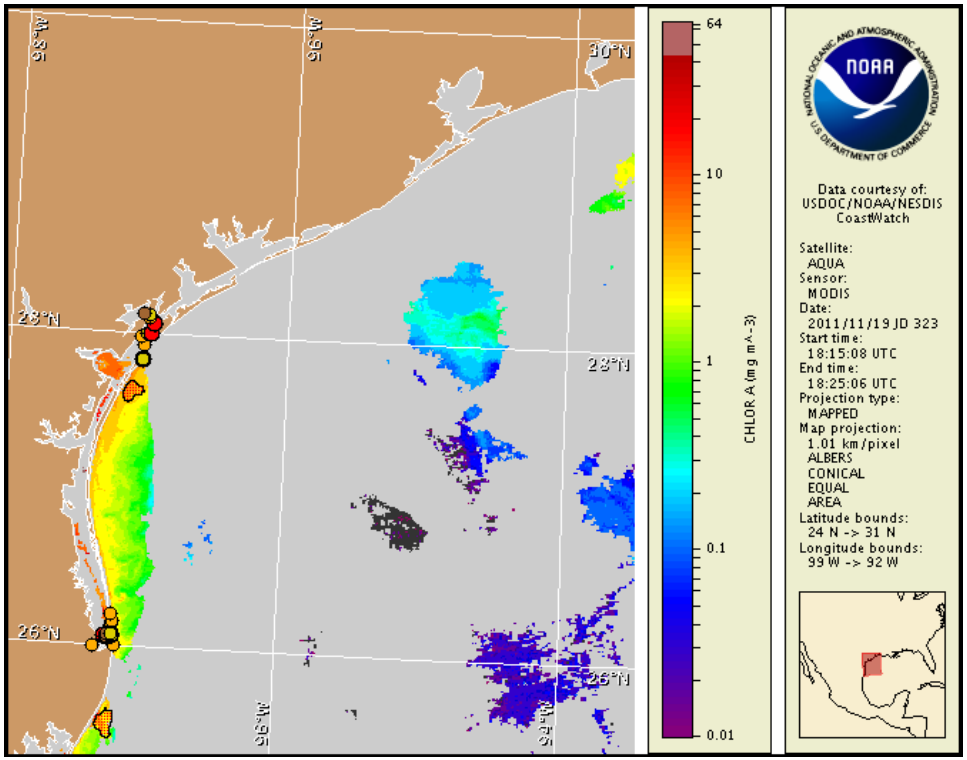
Monday, 21 November 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Thursday, November 17, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from November 11 to 21 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive: http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, and within the lower Laguna Madre and Brownsville Ship Channel area. Patchy high impacts are possible today through Tuesday in the Port Aransas/Corpus Christi region, alongshore South Padre Island, and within the lower Laguna Madre and Brownsville Ship Channel area. Patchy moderate impacts are possible today through Tuesday in the Galveston/Freeport area. No additional impacts are expected at the coast in Texas today through Tuesday, November 22. Respiratory irritation has been reported alongshore South Padre Island, and dead fish have been reported within the Matagorda, San Antonio, Aransas, and Corpus Christi bay regions.

Analysis

Due to the upcoming federal holiday, the next bulletin will be issued on Wednesday, November 23.

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Two samples collected in the Galveston Bay region (not shown on map) indicate 'low a' and 'low b' *Karenia brevis* concentrations south of Morgan's Point (Houston Ship Channel (HSC) marker 85) and near Clear Lake Channel (HSC marker 65), respectively (11/17; TPWD). No other samples have been received from the Galveston Bay region. No new samples are available from the Matagorda Bay region where 'low b' to 'high' *K. brevis* concentrations were reported in early November (11/1-7; TPWD). Dead fish have been reported from Port Lavaca (Lynn's Bayou) and Turtle Bay, as well as within the San Antonio Bay area at Swan Point, Hynes Bay, Welder Flats, and eastern Shoalwater Bay (11/18; TPWD).

No new samples have been received from the Aransas/Corpus Christi area. The latest samples indicate 'low b' to 'high' *K. brevis* concentrations within Aransas Pass at the coast (11/10-13; TPWD), and 'low a' to 'high' concentrations in the Aransas Bay area (11/14; TPWD). Dead fish have been reported from numerous locations throughout Aransas Bay and in Nueces Bay at Portland's Seabreeze RV Park (11/18; TPWD).

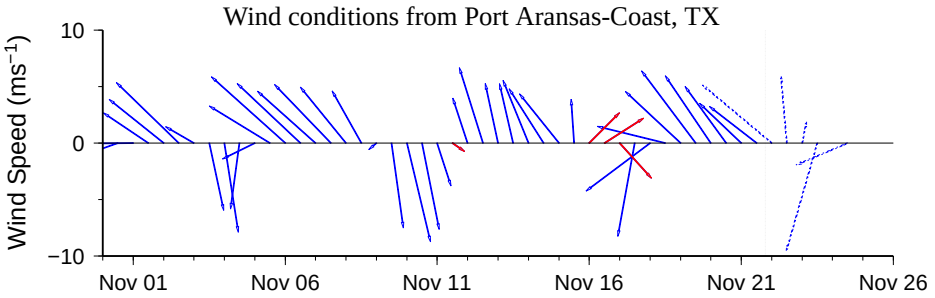
No new samples have been received from the Padre Island National Seashore area where 'low b' and 'medium' concentrations were last identified (11/7; TPWD). Alongshore South Padre Island (Gulf), several samples collected last week from Beach Access 6 to Boca Chica Beach at Highway 4 indicate that *K. brevis* concentrations now range between 'low b' and 'medium' (11/11-21; TPWD). Samples collected within Brazos Santiago Pass over the last week ranged between 'low b' and 'medium' concentrations, while 'low a' to 'medium' concentrations were identified at the nearby Isla Blanca boat ramp (11/11-21; TPWD). Just north of the Isla Blanca boat ramp, *K. brevis* concentrations at the east end of the Queen Isabella Causeway increased from 'low a' to 'high' throughout

last week (11/11-18; TPWD), though one sample reported today indicates that concentrations have returned to 'low a' (11/21; TPWD). One sample collected at the Sea Ranch Marina on 11/11 also indicates 'low a' concentrations (TPWD). In the Port Isabel area, two samples collected from Pompano Avenue indicated 'high' concentrations early last week (11/14-15; TPWD), while samples collected nearby from the west end of the Queen Isabella Causeway indicate a decrease in *K. brevis* concentrations to 'low a' from the 'medium' concentrations reported throughout last week (11/11-21; TPWD), and two samples collected within Canal C indicate a decrease from 'high' to 'low a' concentrations over the past five days (11/17-21; TPWD). Approximately three miles north of the Causeway, one sample collected from Old Parrot Eyes indicates that *K. brevis* concentrations have decreased to 'very low a' from 'low a' to 'medium' concentrations previously reported (11/11; TPWD); one sample from the South Padre Island Convention Center indicates 'medium' concentrations (11/16; TPWD). Two samples collected within the Brownsville Ship Channel at the San Martin Boat ramp indicate that 'medium' concentrations continue to be present in the channel (11/14-15; TPWD). Respiratory irritation has been reported alongshore South Padre Island at Beach Accesses 5 and 6, the UTPA Coastal Studies Lab, and the Isla Blanca boat ramp (11/18; TPWD).

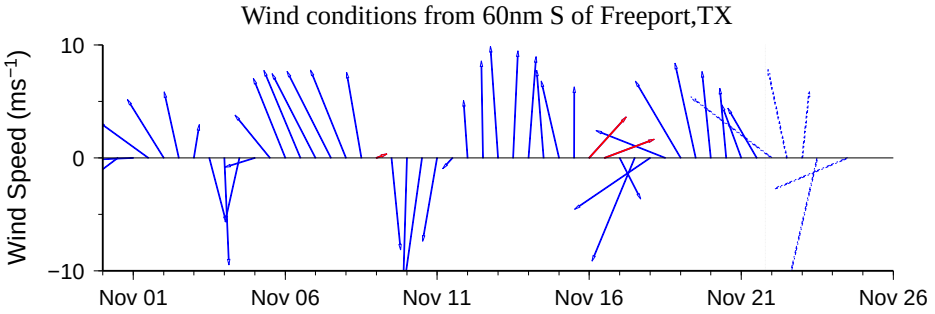
Imagery along the Texas coastline has been obscured by clouds over the past several days, limiting analysis. In MODIS imagery from 11/19 (shown page 1), elevated chlorophyll (2-6 μg/L) is visible stretching along- and offshore from Port Aransas to the Rio Grande. Patches of elevated chlorophyll are visible along- and offshore Mustang Island (3-6 μg/L) and outside Brazos Santiago Pass (3-4 μg/L). A patch of elevated to high chlorophyll (5-13 μg/L) is also visible along- and offshore approximately 45 miles south of the Rio Grande (centered at approximately 25°32'52''N 97°13'31''W). It is not known whether this patch contains *K. brevis*; however, forecast models based on predicted near-surface currents indicate that this feature may transport up to 60km north from November 19-24. Patchy imagery from 11/18 (MODIS, not shown) also indicates elevated chlorophyll (2-6 μg/L) in patches stretching along- and offshore from Sabine Pass to Port Aransas. Further analysis along the Texas coastline is not possible at this time. Elevated chlorophyll at the coast may contain *K. brevis* but could also be due to the continued resuspension of benthic chlorophyll and sediments, making it difficult to determine the extent of blooms from satellite imagery alone.

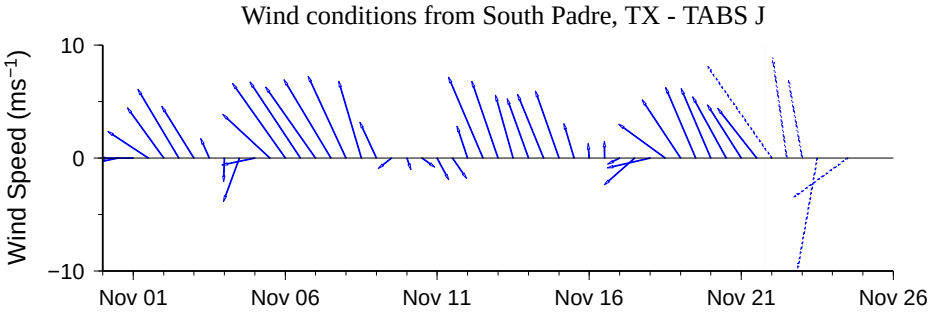
Forecast models based on predicted near-surface currents indicate a maximum bloom transport from coastal sample locations of 60km south from the Galveston Bay region, 50km south from the Matagorda Peninsula region, 30km south from Port Aransas, <10km north along the Padre Island National Seashore region, and 50km north from Brazos Santiago Pass from November 19-24. Onshore winds over the next several days will increase the potential for impacts along the Texas coastline.

Derner, Kavanaugh



Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



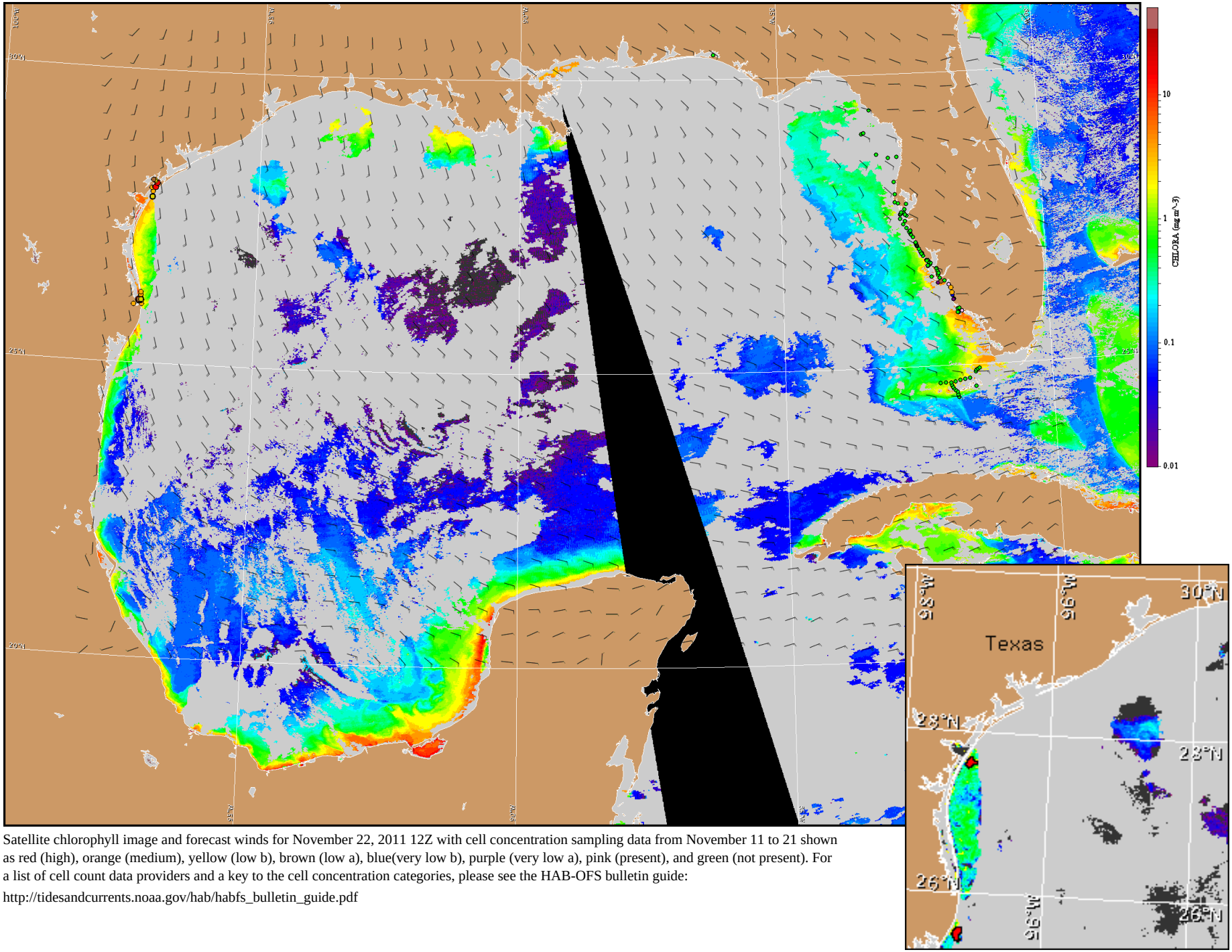


Wind Analysis

Galveston/Freeport: Southeast winds (10-15kn, 5-8m/s) today. South to southwest winds (5-10kn, 3-5m/s) Tuesday becoming northwest (10-15kn) after midnight.

Port Aransas: Southeast winds (15-20kn, 8-10m/s) today. South winds (10-15kn) Tuesday becoming north (20-25kn, 10-13m/s) after midnight.

South Padre: Southeast winds (15-20kn) today becoming south winds (20kn) tonight. South winds (10-20kn, 5-10m/s) Tuesday, shifting north (20kn) Tuesday night.



Satellite chlorophyll image and forecast winds for November 22, 2011 12Z with cell concentration sampling data from November 11 to 21 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:
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Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).